

CLAIMS

What is claimed is:

1. A refrigerant cycle comprising:

at least two compressors, each of said compressors receiving a suction line for delivering refrigerant to be compressed, said suction line receiving refrigerant from a common suction manifold, and each of said compressors having a discharge line for delivering a compressed refrigerant to a downstream discharge common manifold;

a first heat exchanger downstream of said discharge manifold, and an economizer heat exchanger downstream of said first heat exchanger, a refrigerant tap tapping a refrigerant line communicating said first heat exchanger to said economizer heat exchanger, and an expansion device on said tap line, upstream of said economizer heat exchanger, an economizer manifold returning said tapped refrigerant downstream of said economizer heat exchanger to each of said compressors, and an economizer return line communicating said economizer manifold to an intermediate compression point in each of said compressors.

2. A refrigerant cycle as set forth in claim 1, wherein an economizer valve controls flow of returned economizer refrigerant to at least one of said compressors.

3. A refrigerant cycle as set forth in claim 1, wherein an unloader line connects said economizer return line back to a line leading into a suction side of said compressor, with an unloader valve controlling flow through said unloader line.

4. A refrigerant cycle as set forth in claim 3, wherein said unloader line communicates with a pressure equalization line communicating each of said compressor suction sides to equalize pressure on each of said compressor suction sides.
5. A refrigerant cycle as set forth in claim 2, wherein a first economizer shutoff valve is placed upon one of said economizer return lines, with a second economizer shutoff valve being placed on said economizer manifold.
6. A refrigerant cycle as set forth in claim 1, wherein an unloader line communicates said economizer return lines to a flow line communicating with a suction side of each of said compressors.
7. A refrigerant cycle as set forth in claim 6, wherein said unloader line communicates with a pressure equalization line communicating each of said compressor suction sides to equalize pressure on each of said compressor suction sides.
8. A refrigerant cycle as set forth in claim 6, wherein a single unloader valve is placed on an unloader manifold communicating with each of said economizer return lines through separate unloader lines, and said single unloader valve controlling flow from each of said unloader lines to a line returning refrigerant to a suction chamber of said compressors.

9. A refrigerant cycle as set forth in claim 8, wherein a pressure equalization line separately communicates the compressor shells of each of said compressors, and said unloader valve returning refrigerant from said economizer return line to said pressure equalization line when said unloader valve is open.